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The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ZHIGANG FAN and RICARDO L. DE QUEIROZ

Appeal No. 2005-0472
Application No. 09/447,554

ON BRIEF

Before KRASS, BARRETT and DIXON, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-22.

The invention pertains to processing of decompressed image data without requiring information on whether the image was previously compressed or how the image was compressed. The processing is based on an estimated quantization table which is created from the received decompressed image data.

Representative independent claim 1 is reproduced as follows:

1. A method for processing decompressed image data, comprising:

receiving decompressed image data;

creating an estimated quantization table from the received decompressed image data;

processing the decompressed image data based on the created estimated quantization table to form processed electronic image data.

The examiner relies on the following references:

Daly	5,150,433	Sep. 22, 1992
Coleman et al. (Coleman)	5,434,623	Jul. 18, 1995
van den Branden et al. (van den Branden)	6,011,868	Jan. 04, 2000 (filed Apr. 04, 1997)
Shimizu et al. (Shimizu)	6,064,324	May 16, 2000 (filed Jun. 16, 1998)

Yovanof et al. "Statistical Analysis of the DCT Coefficients and Their Quantization Error" Thirtieth Asilomar Conference on Signal Systems and Computers, vol. 1, pp. 601-605 (1995), (Yavanof)

Claims 1-22 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers van den Branden with either Shimizu or Coleman, adding Daly to this combination with regard to claims 6 and 16, while adding Yovanof to the original combination with regard to claims 9 and 19.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

In rejecting claims under 35 U.S.C. §103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). To reach a conclusion of obviousness under §103, the examiner must produce a factual basis supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a prima facie case. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). The examiner may satisfy his/her burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead the individual to combine the relevant teachings of the references. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

In the instant case, and with regard to independent claim 1, the examiner asserts that van den Branden receives decompressed image data, taught in Figure 8, column 9, lines 39-47, and column 13, lines 21-42. The examiner further asserts that

van den Branden teaches the creation of an estimated quantization table from the received decompressed image data, at column 10, lines 1-45, column 12, line 36, through column 13, lines 42, with the examiner noting that "modifying a quantization table to a new one can be viewed as creating an Q table" (answer-page 4). Further, the examiner asserts that van den Branden teaches processing the decompressed image data based on the determined estimated quantization table to form processed electronic image data, citing column 12, line 36, through column 13, line 42.

While the examiner appears to have covered all of the limitations of claim 1, the examiner then asserts that van den Branden fails to mention a quantization table without transmitting the quantization table used in the compression process, but that "for the sake of argument, the limitation is well known in the art" (answer-page 4). Since claim 1 contains no such limitation, it is unclear why the examiner mentions such an unclaimed limitation when discussing claim 1.

For whatever reason, the examiner cites Shimizu for a disclosure of a decoding method and apparatus for creating a quantization width without transmitting information on quantization width (citing the title and abstract of Shimizu), and the examiner further cites Coleman, at column 12, lines 10-15, as teaching the same notion.

Finally, the examiner concludes that it would have been obvious "to include the schemes of Shimizu or Coleman in the method of Van den Branden in order to improve the compression speed, quality, and the efficiency of the method (Shimizu, col. 1 lines 50-67, Coleman, col. 4 lines 18-67)" (answer-page 4).

For their part, appellants argue that independent claim 1, as well as independent claim 11, are not obvious over the applied references because Figure 8 of van den Branden discloses details of a decoder 210 and Compressed Domain Quality Meter (CDQM) 220 and, since CDQM is expressly disclosed as estimating "various measures of distortion of the resulting video output (i.e., pixel output) using only the compressed video bitstream (emphasis added)" (principal brief-page 12, obviously quoting from column 6, lines 60-62, though this section of van den Branden is not cited by appellants), it is clear that the circuitry of Figure 8 of van den Branden receives and acts upon the "compressed video bitstream" and is not used for "receiving decompressed image data," as claimed.

Appellants' observation appears, to us, to be correct. That is, the examiner's premise that van den Branden receives uncompressed, or decompressed, data, and then uses that decompressed image data to create an estimated quantization table, is incorrect.

The examiner explains that the artisan would have known that the "first stage of the decoding/decompression of image data is inverse decoding the compressed image data stream..." (answer-pages 7-8). We are not persuaded, as we agree with appellants that van den Branden specifically discloses that compressed data is received into block 210 and the compressed data is only used to estimate various measures of distortion of the resulting video output, regardless of the fact that a user can selectively perform decoding, as disclosed by van den Branden at column 3, lines 15-57 (see page 2 of the reply brief). Even if we assume that there is decompressed image data at the output of the Inverse Quantization of DCT coefficients (IQDCT) element in van den Branden's Figure 8, an inverse quantization, or "de-quantization," has occurred, so what would be the point of van den Branden using this decompressed image data output from IQDCT to create an estimated quantization table, as required by the instant claims? It would make no sense, and this is consistent with van den Branden's disclosure of the CDQM 220 using only the "compressed" video bitstream in estimating various measures of distortion of the resulting video output, as set forth in column 6, lines 60-62.

The first step of the method of claim 1 calls for "receiving decompressed image data." We have searched the van den Branden reference, especially the portions specifically cited by the examiner and we fail to find any teaching or suggestion of receiving decompressed image data. The examiner cites Figure 8 of van den Branden. Our review of that figure, and its attendant disclosure, finds that decoder 210 receives "compressed," not decompressed, video data. See column 9, lines 27-29, of the reference. Further on down column 9, at lines 38-42, it is revealed that the compressed video data is input to CDQM 220 in order to perform different estimates of the quality of the video output stream and that these estimates "require varying levels of decoding and are selectable by the user..." So, while there may be varying levels of decoding, it is clear from van den Branden that the CDQM 220, where any estimation quantization table would have to be created, receives only "compressed" video data from which any such table would be created. Accordingly, it appears to us that van den Branden does not teach or suggest the receipt of decompressed image data and then the creation of an estimated quantization table from that received decompressed image data, as required by the instant claims. Moreover, we find that this deficiency of van den Branden is not disclosed in either of Shimizu or Coleman.

Further, we agree with appellants that van den Branden nowhere discloses or suggests the claimed creation of an "estimated quantization table." As pointed out by appellants, at page 3 of the reply brief, van den Branden mentions quantization tables in column 2, lines 25-28, as part of the prior art, and in column 10, lines 40-45, and column 13, lines 25-28, but there is no mention of creating an estimated quantization table or matrix from received decompression image data, as claimed. For example, at column 13, lines 25-28, it is stated that "the Objective metric only require IVLC decoding (unless user defined quantization matrices are present),..." Clearly, if quantization matrices are present, they must have been created prior to the processing described by van den Branden and were not created from received decompressed image data. If the quantization matrices are not present, then, again, there was no creation of an estimated quantization table from the received decompressed image data, as required by the instant claims.

Since van den Branden fails to show or suggest the steps/elements of independent claims 1 and 11, and none of the secondary references provides for the

deficiencies of van den Branden, we will not sustain the rejection of claims 1-22 under 35 U.S.C. §103.

The examiner's decision is reversed.

REVERSED

ERROL A. KRASS)
Administrative Patent Judge)
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LEE E. BARRETT) BOARD OF PATENT
Administrative Patent Judge) APPEALS
) AND
) INTERFERENCES
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JOSEPH L. DIXON)
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